

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2005 (06.05.2005)

PCT

(10) International Publication Number
WO 2005/040905 A1

(51) International Patent Classification⁷: **G02F 1/1365**,
1/1343

(21) International Application Number:
PCT/KR2004/002742

(22) International Filing Date: 28 October 2004 (28.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10-2003-0075870 29 October 2003 (29.10.2003) KR

(71) Applicant (for all designated States except US): **SAM-SUNG ELECTRONICS CO., LTD.** [KR/KR]; 416 Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 442-742 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SHIN, Kyoung-Ju** [KR/KR]; Samjeong Seonbi Maeul 102-504,

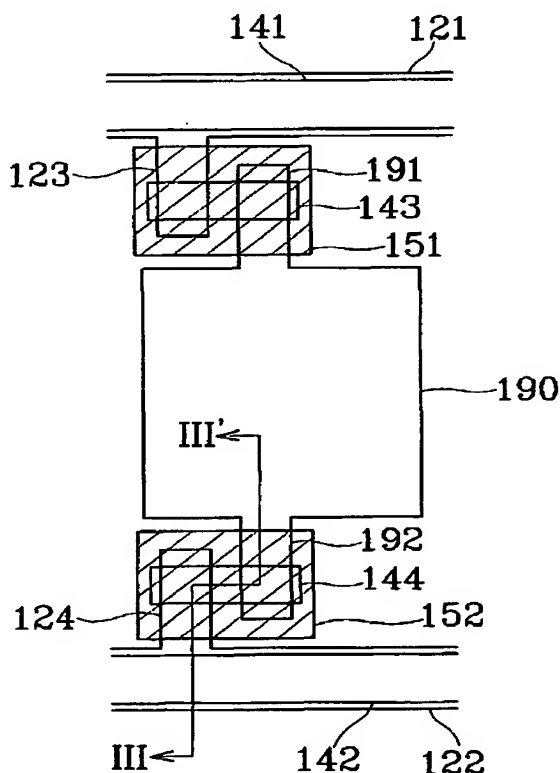
289-12, Bora-ri, Giheung-eup, Yongin-si, Gyeonggi-do 449-900 (KR). **CHAI, Chong-Chul** [KR/KR]; Samsung Apt.102-2001, Shingongduk-dong, Mapo-gu, Seoul 121-090 (KR). **OH, Joon-Hak** [KR/KR]; Hyundai Apt. 105-205, Sinrim 9-dong, Kwanak-gu, Seoul 151-790 (KR). **KIM, Jin-Hong** [KR/KR]; 309-6 Bukgajwa 2-dong, Seodaemun-gu, Seoul 120-130 (KR). **HONG, Sung-Jin** [KR/KR]; 84-1 Hwayang-dong, Gwangjin-gu, Seoul 143-915 (KR).

(74) Agent: **YOU ME PATENT AND LAW FIRM**; Seolim Bldg., 649-10 Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,

[Continued on next page]

(54) Title: **THIN FILM DIODE PANEL AND MANUFACTURING METHOD OF THE SAME**



(57) Abstract: A thin film diode array panel comprising: an insulating substrate (110); first and second redundant gate lines (141, 142) made of an opaque conductor and formed on the insulating substrate; first and second floating electrodes (143, 144) made of an opaque conductor, formed on the insulating substrate, and disposed between the first and second redundant gate lines (141, 142); an insulating layer (151, 152) formed on the first and second floating electrodes (143, 144); a first gate line (121) formed on the first redundant gate line (141) and including a first input electrode (123) overlapping the first floating electrode (143) where the insulating layer (151) is interposed between the first input electrode and the first floating electrode; a second gate line (122) formed on the second redundant gate line (142) and including a second input electrode (124) overlapping the second floating electrode (144) where the insulating layer (152) is interposed between the second input electrode (124) and the second floating electrode (144); and a pixel electrode (190) including a first contact electrode (191) overlapping the first floating electrode (143) where the insulating layer (151) is interposed between the first contact electrode (191) and the first floating electrode (143), a second contact electrode (192) overlapping the second floating electrode (144) where the insulating layer (152) is interposed between the second contact electrode (192) and the second floating electrode (144), and a main body is provided.

WO 2005/040905 A1



MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.